



Descriptive report on the Second Survey Round 2023 – Main Highlights

Ethiopia faces significant development challenges, with one of the major ones being climate hazards such as droughts, particularly in rural and agriculture-dependent areas. Ethiopia has a history of being affected by numerous severe and prolonged drought episodes, which has caused widespread famines and humanitarian crises. These climate-induced threats pose major challenges for households' livelihood and agricultural production. Because of this, there is a need to adapt to these changes and ensure agricultural productivity to improve livelihoods and enhance the resilience of rural households. Despite the increasing threats of climate-related shocks and hazards, few studies have focused on resilience building through improved agricultural water management, introduction of innovative production technologies and promotion of proactive measures instead of reactive ones.

This was why the Policy Studies Institute (PSI) together with the Development Economics Research Group at the University of Copenhagen (UCPH-DERG) started a collaborative research project supported financially by Danida on building resilience to climate change. The collaborative research project conducted the first household survey round in 2021, and the second round in 2023, reaching approximately 1,995 households, covering 40 woredas across Ethiopia, and 160 key informants at the community level with qualitative interviews. In addition, the research team conducted a **workshop** in Addis Ababa on the 12th of October, to present the main findings.

The main aim of the research project was to identify drivers of resilience to climate change in rural parts of Ethiopia, and assess socio-economic factors, production methods and coping strategies between the survey years. The importance of the research lies in the need to support building capacity of households to withstand shocks and scale up innovative practices to cope with climate change. These areas require further deepened understanding at the grassroot level. The analysis in the project covered actions at household level, impact of large-scale interventions such as flagships programs, and the role of institutions and social networks.

Main findings from the quantitative survey data

The main insights and learnings from the second round of the household survey and interviews are presented below. Firstly, in terms of demographic household characteristics, approximately 80 percent of the household heads were male, and 50 percent were illiterate, with fewer than 10 percent having completed education beyond secondary school or an adult literacy program. Notably, from the first to

the second survey round, there was a rise in the percentage of household heads and members with education levels surpassing primary school. Simultaneously, there has been a reduction in the percentage of illiterate household heads and members.

The share of land owned, managed by, and output control increased among women between the survey years. The finding also reveals that an integrated adaptation of a combination of modern technologies (i.e., fertilizer, improved seed, agrochemicals, and irrigation together) could increase the income of households through productivity gain. With regards to dietary diversity, there was a general increase in the mean number of food groups consumed. The percentage of households consuming at least one food item from a food group increased for pulses, and meat and fish, while it decreased for oilseeds, and tubers and stems. In general, there was a statistically significant decrease in calorie intake. However, calorie and protein intake increased in the PSNP woredas while in the AGP woredas there was a rise in protein intake. Between the survey rounds, there was not a significant change for the food and non-food expenditure shares for the 16 expenditure categories.

In the survey sample, only 581 households (approximately 30 percent) engaged in off-farm activities, highlighting that involvement in rural enterprises is constrained. However, there is a slight increase in participation compared to the first survey conducted in 2021, where only 499 households participated in these activities. Notably, off-farm enterprises operating for just one month increased from 1.4 percent to 2.6 percent. In contrast, those in operation for four months dropped from 8.8 percent to 6.7 percent during the second survey. There was a notable surge in the number of households providing transport services, rising from 19 to 57 households between the survey rounds. This suggests that transport services, especially using motorcycles and Bajajs, are becoming more profitable ventures in rural Ethiopia.

Around a quarter of the households' experience drought in the five years before the first survey round, this number increased only slightly in the second survey round. The frequency of the most severe droughts was more frequently reported in the years 2019-2020 and 2020-2021 in the first round, and in the second round in 2021-2022, which indicates that droughts continue to be more severe each year. The two most frequently reported impacts of drought in decreasing frequency are crop loss and livestock death, between the survey rounds, there was an increase in crop loss and a decrease in livestock death as impacts of drought.

Looking at the households' coping strategies and resilience capacities in the face of climate change-induced shocks such as droughts, around 32 percent of sample respondents believe they would likely recover within six months from a setback, compared to 57 percent who feel they would not. Although the majority remains pessimistic about recovery, optimism has grown since the RCC Survey 2021, where 67 percent felt recovery was unlikely. Interestingly, households perceive an increased likelihood

of recovering from drought damage within six months. This increase is seen regardless of whether households had experienced no droughts, only one drought, or more than one drought in the last five years, but it was especially strong among those who have faced multiple droughts over the last five years. At the same time, there is a growing propensity among individuals to rely on, or become more dependent upon, family or friends when confronted with drought conditions. Those households in the sample likely to rely on family increased from 28 percent to 36 percent, and the proportion of those stating they are unlikely to lean on family or friends dropped from 47 to 42 percent.

When comparing with the first RCC Survey in 2021, fewer respondents in 2023 (53 percent down from 56 percent) feel they had not learned from previous drought experiences. Between the two survey rounds, the proportion of respondents agreeing to the statement that they had learned important lessons and are more prepared increased from 22 percent to about 29 percent. Thus, more respondents feel that they learned from past droughts and are now more prepared for future ones. This suggests a growing sentiment of learning and an enhanced anticipatory resilience capacity.

Furthermore, the proportion of households willing to shift their income sources or livelihoods in the face of a drought has grown from 19 percent in the previous survey to 26 percent in 2023. The percentage of households where a member had participated in a government program remained roughly the same or even decreased compared to the first survey round. We observe an increase in the proportion of respondents who indicate they would likely change their way of life in response to a drought-induced threat across all education level groups. In summary, households are still unlikely to change their primary source of income, way of life, or livelihood farming system to adapt to future drought-induced threats. This suggests that the transformative capacity of households in the sample remains at a relatively low level, despite some increasing tendencies of considering alternatives.

Findings from the qualitative interview data

The qualitative interview data for the second round highlights several learnings, for instance, according to the key informants. Most respondents mentioned numerous changes faced by the community in the recent decade, ranging from unpredictable rain patterns, reduction of grazing land, agricultural production, animal feed, and water availability. Most of the respondents also attributed these changes towards the impacts of climate change. Respondents were asked to estimate the percentage of resilient households in their woreda, to which the majority informants estimated from 10% to 50%. Those households who are resilience, are those with large land ownership, access to other income sources, knowledge of climate change and access to improved drought-resistant crops and technologies for agriculture that make them adapt or cope with changes. The actions that households take to cope with climate related changes are taking up alternative employment, engage in petty trade, crop diversification, water and soil conservation, and planting trees. When described how the three different

flagship support programmes have contributed to benefit the woredas, the key informants often mentioned work on soil and water conservation, improvement of infrastructure such as road and irrigation, and provision of support inputs such as seeds and fertilizers. The key informants also proposed remedial actions for building resilience on both household and communal level. The most mentioned proposed actions for on the communal level are planting of indigenous trees, water and soil conservation, encouraging saving, and actions recommended on the household level is off farm income generating activities, crop diversification, modern input usage and promotion of smart agricultural practices.

Compared to the household survey results, there are a few similarities and differences in the interview data. In general, we can see that there are discrepancies when looking at the different aspects of household resilience and coping strategies. The key informants are both over- and under-reporting the households' conditions and actions, compared to the survey data. One example of key informants over-reporting concerns the different climate conditions that the households have faced. Specifically, in the Dawo and Walmara woredas, the key informants in the interview data describe that there have been a high number and large variation of climate change impacts. Conversely, the survey data shows that in these two woredas, households are on average reporting substantially lower levels of experienced climate change impacts and variations.

When looking at the number of innovative actions adopted by households to cope with climate-related changes, and the program satisfaction and the households' perception of its benefits, the key informants are both under- and over-reporting. The data discrepancy of the innovative actions adopted indicate that the key informants and the community leaders think more actions are adopted than reality. Similarly, the key informants are mostly over-reporting the households' program satisfaction, indicating that in these woredas, the key informants believe the households to be more satisfied than they are.

However, there are also similarities between the different data. The level of households with the capacity to cope with and withstand climate shocks are similar for several woredas, suggesting that the key informants understand the level of resilience for households in their woredas. In the interview data, the key informants are asked about the main reasons for why households are resilient, and in the majority of the 40 woredas, the size of the land is mentioned. When looking at this relationship in the survey data, we can see that there is a positive relationship that is statistically significant, despite also controlling for other factors. This would indicate that the different data sources are providing similar results regarding reasons for why households are resilient.

The comparative analysis of the quantitative and qualitative data shows mixed results of the correspondence between the interview and survey data in our research. While there are several areas where the data overlaps, generally across the woredas, the interview data tells us that key informants

are both under- and over-reporting households coping strategies, climatic conditions experienced, and satisfaction with support programs.